Spectroscopy on X9B: New Detector for EXAFS	X9B

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This sub-project involved submission of an SIG application to NIH requesting an Advanced Array Detector for X-ray spectroscopy that can count 3 times faster than our existing detector. Recent improvements in beamline X9B make current XAS experiments inefficient. The 4 fold increased x-ray flux now available for XAS experiments cannot be adequately handled by the antiquated electronics of the existing XAS detector. XAS is a major component of the NIH funded programs of each of the 7 major users listed in the proposal. These users have 13 NIH grants that will benefit from this instrument. These users also have over 60 XAS publications in the last three years using the facilities and current detector of the Resource Center. In addition, these major users identify 18 NIH funded collaborators (with 20 additional NIH grant programs pertinent to the proposal) who will benefit from the acquisition of this instrument.

The available beamtime for XAS on the X9B beamline is 2-fold oversubscribed. These NIH funded users and their collaborators have few alternatives for completing their experimental programs. Increasing throughput by a factor of three using the new instrument would be an extraordinary benefit to this productive and well-funded user community.